

WHAT IS CLAIMED IS:

1. A process for preparing polyurethane-polyacrylate hybrid secondary
dispersions, comprising
 - (I) preparing a polyurethane (A) having an average molecular weight M_n of
from 1,100 to 10,000, which contains no polymerizable double bonds, in
non-aqueous solution, in the presence where appropriate of vinylically
unsaturated monomers which carry no groups that are reactive towards
isocyanate groups,
 - (II) adding to the polyurethane solution (A), one or more vinylically unsaturated
monomers (B) selected from at least one of the group containing
 - (B1) acid-functional monomers,
 - (B2) hydroxyl- and/or amino-functional monomers,
 - (B3) other monomers different from (B1) and (B2),and subjecting the resultant mixture to free-radical polymerization in a
homogeneous, non-aqueous phase to provide a hybrid polymer,
 - (III) neutralizing at least some of the neutralizable groups, and
 - (IV) dispersing the hybrid polymer into the aqueous phase, wherein the
neutralization can take place before or after the vinyl polymerization or
during the dispersing step.
2. The process according to Claim 1, wherein the polyurethane
(A) is obtained by reacting

- (A1) polyisocyanates with
at least one compound containing NCO-reactive groups, selected
from the group containing
- 5 (A2) polyols and/or polyamines having an average molecular weight M_n
of at least 400,
- (A3) compounds containing at least one ionic or potentially ionic group
and at least one further isocyanate-reactive group and/or
nonionically hydrophilicizing compounds containing at least one
further isocyanate-reactive group,
- 10 (A4) low molecular mass compounds having a molecular weight M_n of
less than 400 which are different from (A2), (A3) and (A5) and
contain at least two NCO-reactive groups,
- (A5) compounds which are monofunctional or contain active hydrogen
of different reactivity, these building blocks being located in each
15 case at the chain end of the polymer containing urethane groups.
3. The process according to Claim 1, wherein the free-radical polymerization
is conducted such that at the end the fraction of the acid-functional
monomers in the monomer mixture is higher than at the beginning.
- 20 4. A polyurethane-polyacrylate hybrid secondary dispersions obtained
according to the process of Claim 1.
5. The polyurethane-polyacrylate hybrid secondary dispersions according to
Claim 4, wherein the hybrid polymer contains hydroxyl groups both in the
polyurethane fraction (A) and in the vinylically unsaturated monomers
25 fraction (B).

6. Aqueous two-component (2K) coating compositions comprising polyurethane-polyacrylate hybrid secondary dispersions according to Claim 4 and also at least one crosslinker.
- 5 7. The aqueous two-component (2K) coating compositions according to Claim 6, wherein the crosslinker is a polyisocyanate.
8. The aqueous two-component (2K) coating compositions according to Claim 7, characterized in that the crosslinker is a polyisocyanate
10 containing free isocyanate groups based on aliphatic or cycloaliphatic isocyanates.
9. A process for producing coatings, comprising applying the polyurethane-polyacrylate hybrid secondary dispersions according to Claim 4 to
15 substrates selected from the group consisting of concrete, screeding, mineral surfaces, wood, wood-based materials, metal, asphalt-containing or bituminous coverings, plastics surfaces, glass, glass fibres, carbon fibres, woven and non-woven textiles, leather, paper, hard fibres or straw and dried.
- 20 10. The process according to Claim 9, wherein the substrate is metal or plastic.
11. Substrates coated with aqueous coating compositions comprising polyurethane-polyacrylate hybrid secondary dispersions according to
25 Claim 4.
12. The polyurethane-polyacrylate hybrid secondary dispersions according to Claim 5, wherein vinylically unsaturated monomers (B) comprise polyacrylates.